

Patent Abstracts of Japan

PUBLICATION NUMBER : 2000299520
PUBLICATION DATE : 24-10-00

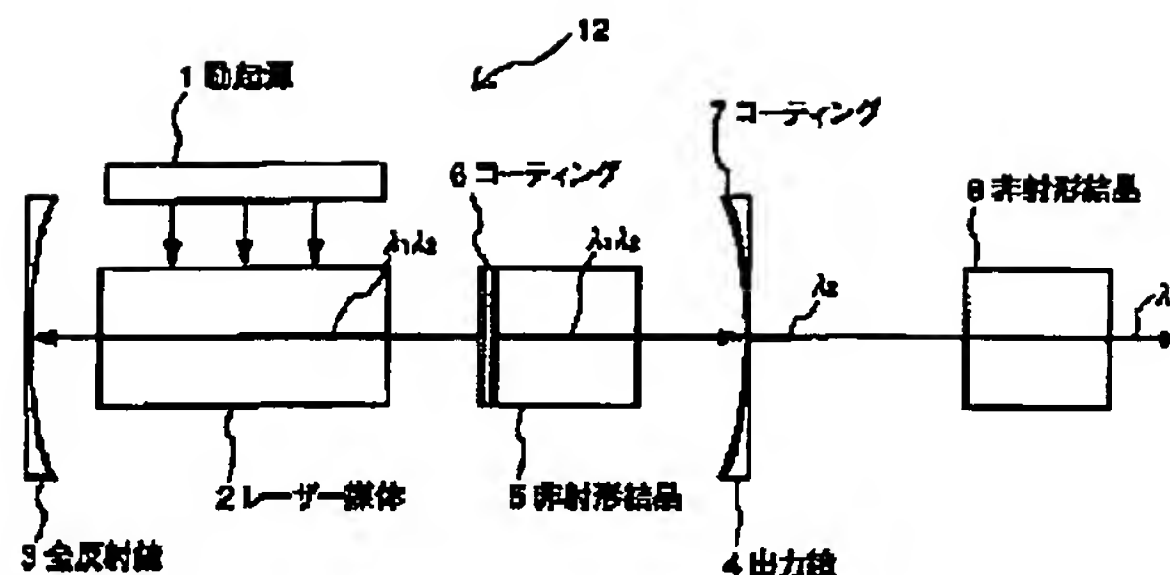
APPLICATION DATE : 16-04-99
APPLICATION NUMBER : 11109412

APPLICANT : MITSUBISHI HEAVY IND. LTD;

INVENTOR : NODA OSAMU;

INT.CL. : H01S 3/109

TITLE : LASER OSCILLATOR



ABSTRACT : **PROBLEM TO BE SOLVED:** To prevent harmonic light from entering a laser medium and to stabilize the oscillation of a laser beam by performing coating to a nonlinear crystal so that light with a fundamental wave wavelength can be transmitted and light with a harmonic wavelength can be reflected, and at the same time performing coating to an output mirror so that the light with a fundamental wave wavelength can be totally reflected and light with a harmonic wavelength can be transmitted.

SOLUTION: Coating 6 for transmitting light λ_1 with a fundamental wave wavelength and reflecting light λ_2 with a harmonic wavelength is made to the fundamental wave light incidence surface of a nonlinear crystal 5. Then, coating 7 for totally reflecting fundamental wave light and the light λ_2 with a harmonic wavelength is made to an output mirror 4. The light λ_2 with a harmonic wavelength being generated in this manner is propagated only in the direction of an output mirror 4, thus preventing light with harmonic from entering a laser medium 2. Also, the output mirror 4 emits only the light λ_2 with a harmonic wavelength, so that no fundamental wave λ_1 enters a nonlinear crystal 8. As a result, a laser oscillates stably and the light λ_1 with a fundamental wave wavelength is not propagated to the outside of a resonator 12, thus eliminating the need for a dichroic mirror and a damper and easily miniaturizing the laser device.

COPYRIGHT: (C)2000,JPO